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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

STRANGE, AARON N

ART UNIT PAPER NUMBER

2153

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/843,789	Applicant(s) GARCIA-LUNA-ACEVES ET AL.	
	Examiner Aaron Strange	Art Unit 2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 30-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 30-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04082005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/17/06 have been fully considered but they are not persuasive.
2. With regard to claims 1-7, and Applicant's assertion that the combination of Jordan and Pistriotto does not teach "determining, according to a type-of-service parameters and loads on a number of information object repositories, which information object repositories should service the client's request without regard as to whether the information object is actually stored at the information object repository selected" (Page 9, Line 10 to Page 10, Line 27 of Remarks), the Examiner respectfully disagrees. These limitations are clearly taught by Jordan.

Jordan discloses, determining according to a type-of-service parameters (forwarding frequency) and loads (load condition) on a number of information repositories (at least Col 6, Lines 46-49), which information object repository should service the client's request without regard as to whether the information object is actually stored at the information object repository selected. The selected server will not necessarily contain the requested object. It may be included with the forwarded request (Col 7, Lines 2-4) or the selected server will retrieve it from a content server (Col 7, Lines 5-7).

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3. With regard to claims 1-7, Applicant's arguments regarding to the combination of Jordan and Brendel (Pages 11-12 of Remarks) are not persuasive for the same reasons discussed above, since the limitations asserted to be missing are taught by Jordan.

4. Applicant has failed to provide arguments for claims 8-28 and 30-37 other than those presented for claims 1-7. Therefore, those arguments are not persuasive.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-28 and 30-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. With regard to claim 1, the limitation "determining, according to a type-of-service parameters and loads on a number of information object repositories" is unclear. The specification describes the loads on the Web caches/content servers as examples of type-of-service parameters. It appears that Applicant is claiming determining based on at least two parameters, one of which is the load on the information object repositories. However, claim 3 goes on to specify that the type-of-service parameter may be the load on the information object repository. For the purpose of applying prior art, this limitation

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has been interpreted as at least two parameters including at least the load on the information object repositories but the claim remains unclear.

8. With further regard to claim 1, language issues regarding plural and singular terms render the claim indefinite. For example, the term "a type-of-service parameterss" is unclear, since the number of parameters being claimed is unclear. The limitation "which information object repositories should service" in line 5 is not consistent with "the selected information object repository" in line 7 or "a selected information object repository" in line 9.

9. Claim 35 recites the limitation "the number of information object repositories" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

10. All claims not individually rejected are rejected by virtue of their dependency from the above claims.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The rejections of claims 1-28 and 30-37, presented in the Office actions of 11/9/2004 and 4/11/2005, under 35 USC 103(a) over Jordan (US 6,438,652) in view of Pistriotto et al. (US 6,138,162) taken alone or in further view of Rune, Johnson, or Chauhan are **MAINTAINED**. As discussed above, Jordan discloses determining according to a type-of-service parameters (forwarding frequency) and loads (load condition) on a number of information repositories (at least Col 6, Lines 46-49) which repository to select.

13. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al. (US 843,789) in view of Brendel et al. (US 5,774,660).

14. In referring to claim 1, Jordan shows a system having a plurality of caching servers cooperating to forward client request for object to a least loaded server. Jordan shows:

Receiving from a client a request for an information object (col. 5 lines 54-56),
Determining, according to a type-of-service parameters (forwarding frequency) and loads (load condition) on a number of information repositories (at least Col 6, Lines 46-49), which information object repositories (cache servers) should service the request for the information object without regard as to whether the information object is actually stored at the information object repository selected according to the selection procedure (col. 6 lines 50- col. 7 line 7, col. 7 line 66- col. 8 line 13).

Although Jordan shows substantial features of the claimed invention, Jordan does not explicitly teach *returning to the client an address of a selected information object repository*. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan as evidenced by Brendel.

In an analogous art, Brendel shows a method for redirecting client request to a server. A client request for a particular type of information is sent to a server/load balancer. The server/load balancer determines which server to assign the request to and returns the address of the assigned server to the client, which re-issues the request to the assigned server (Col 21, Lines 1-8).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Jordan to employ the features of a decentralized load table shown by Brendel. It would be obvious to one of ordinary skill in the art to return address information to the client, as shown in Brendel in order to delay redirection until the URL is parsed and the requested content is determined.

15. In referring to claim 2, Brendel shows mapping an address of the client to an address of the selected information object repository (Col 21, Lines 1-8).

16. In referring to claim 3, Jordan shows mapping according to specified performance metrics (Col 6, Lines 58-64).

17. In referring to claim 4, Jordan shows that the type-of-service parameters comprise load on the object repository (col. 3 lines 30-41).

18. In referring to claim 5, Jordan shows address of information object repository is selected from a number of addresses of information object repositories (load monitor can select from a plurality of owning caches, fig. 2a, 10121 B or A, col. 6 lines 58-64).

19. In referring to claim 6, Jordan shows instructing the selected information object repository to obtain a copy of the information object from a topologically close content server (Col 7, Lines 5-7).

20. In referring to claim 7, Jordan shows determining which of a number of information object repositories should service the request for the information object comprising a direct and redirect cache selection process (col. 6 lines 61-64, direct cache selections or redirected to an owning cache).

21. Claims 8-10, 21-28, 31, and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan and Brendel in further view of Rune (US 6,304,913).

22. In referring to claim 8, although Jordan and Brendel shows substantial features of the claimed invention, Jordan does not show *using web server which received the request, to contact a Web router to obtain an address of a topologically close*

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information object repository to the requesting client. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan and Brendel as evidenced by Rune.

In an analogous art, Rune shows a system used to selecting a closest server for a plurality of alternative servers. Rune shows:

Using a web server (157a or 156a), which received the request, to contact a Web router (105a) to obtain an address of a topologically close information object repository to the requesting client (fig. 2 210, fig. 7, col. 7 lines 7-25).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Jordan and Brendel to employ the features shown by Rune in order to in order to improve response times (see Rune col. 1 lines 43-51).

23. In referring to claim 9, Rune shows receiving web server from the web router, an address of the topologically close information object repository (fig. 7, 706, fig. 8, 806).

24. In referring to claim 10, Rune shows returning from web server to the client a URL which contains the address of the topologically close repository (fig. 7 710, fig. 8, 808).

25. In referring to claim 21, Rune shows a local DNS cache selection process returning, from a web server (158b, 158e) which received the request from the client, a

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uniform resource locator containing a statically configured domain name (col. 4 lines 1-28).

26. In referring to claim 22, Rune shows local DNS cache selection process further comprises providing, from a DNS server (156e), the statically configured domain name to a Web router (105e) (col. 4 lines 29-37).

27. In referring to claim 23, Rune shows the local DNS cache selection process further comprises providing, from a DNS server (156e), the statically configured domain name to a web router (105e), an address of a topologically close repository (fig. 8, 806).

28. In referring to claim 24, Rune shows the DNS server, the address of the topologically close information object repository to the client (fig. 8, 808).

29. In referring to claim 25, Jordan shows direct cache selection process is combined with redirect cache selection process (col. 7 lines 23-35, fig. 4).

30. In referring to claim 26-28, Jordan shows direct cache selection process is combined with local and remote DNS cache selection process (col. 1 line 8- col. 2 line 3).

31. In referring to claim 31, Jordan shows direct cache selection process is used for information objects that will be immediately loaded without user action (col. 7 lines 23-35).

32. In referring to claim 34, Rune shows local DNS cache selection process is used for information objects that will be loaded only after some user action (fig. 7, 710, wherein user must access the IP address upon receiving it).

33. In referring to claim 35, Rune shows that determining which of the number of information object repositories should service the request for the information object takes into account the address of the client (closest server is selected (Col 5, Lines 39-42)).

34. In referring to claim 36, Jordan shows that the specified performance metrics comprise load on the object repository (col. 3 lines 30-41).

35. In referring to claim 37, Jordan shows instructing the selected information object repository to obtain a copy of the information object from a topologically close content server (Col 7, Lines 5-7).

36. Claims 11-15 and 30, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan and Brendel in view of Johnson et al (US 6,205,477).

37. In referring to claim 11, although Jordan and Brendel shows substantial features of the claimed invention, Jordan and Brendel do not show redirect cache selection comprising of redirecting Web router. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan and Brendel as shown by Johnson.

In an analogous art Johnson shows a system for redirecting service requests among a plurality of services using portion metrics. Johnson discloses:

A redirect cache selection process comprising of contacting, using a web server (72) which received the client request from the client, a web router (82) to obtain an address of a redirecting web router which will service the request (col. 5 lines 39-53)

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system disclosed by Jordan and Brendel, to employ the features shown by Johnson, in order to provide dynamic and transparent scalable traffic load distribution between multiple dispersed servers (see Johnson col. 5 lines 57-61).

38. In referring to claim 12, Johnson shows returning from web server (72) a URL that contains address of redirecting web router (col. 10 lines 26-52, col. 11 lines 13-16).

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39. In referring to claim 13, Johnson shows contacting the redirecting web router at the address contained in the URL with the request for the information object (col. 11 lines 18-23).

40. In referring to claim 14, Johnson shows redirecting from the Web router (82), the client to a topologically close server which will service the request for information (col. 5 lines 44-61).

41. In referring to claim 15, Johnson shows redirecting is accomplished using a HTTP redirect (col. 10 lines 26-30).

42. In referring to claim 30, Johnson shows combining a redirect cache selection process (HTTP redirect mode) with remote and local DNS selection process (col. 6 lines 61- col. 7 line 3).

43. In referring to claim 32 and 33, Johnson shows a redirected cache selection process and a remote DNS cache selection process is used for information objects that will be loaded only after some user action (col. 8 lines 25-28, wherein user must access the IP address after it is received).

44. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan and Brendel in view of Chauhan (EP 0959 601).

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45. In referring to claim 16, although Jordan and Brendel show substantial features of the claimed invention including returning from a web server a statically configured domain name (col. 2 lines 32-39), Jordan and Brendel do not show remote DNS cache selection process with redirector DNS server. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Jordan and Brendel, as evidenced by Chauhan.

In an analogous art, Chauhan shows a system for selecting a server from a plurality of mirrored sites. Chauhan discloses:

A remote cache selection process composes returning to client a statically configured domain name of a redirector DNS server (ONS) (col. 3 line 55- col. 4 line 4).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system disclosed by Jordan and Brendel to employ the feature shown by Chauhan in order to optimize access and find the best route to a destination (see Chauhan col. 3 lines 49-52).

46. In referring to claim 17, Chauhan shows a system wherein remote DNS cache selection process further comprises resolving, at the redirector DNS server (ONS), the statically configured domain name to produce a resolved domain name (col. 4 line 4-13).

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47. In referring to claim 18, Chauhan shows a system wherein remote DNS cache selection process further composes providing, from the redirector DNS server (ONS) the resolved domain name to a router (fig. 4 406a/b, col. 9 lines 1-11).

48. In referring to claim 19, Chauhan shows remote DNS cache selection process comprises receiving, at the redirector DNS server and from the Web router, an address of a topologically close site for the client (fig. 5 508, fig. 6 610)

49. In referring to claim 20, Chauhan shows providing from the redirector server the address of the topologically close site to the client (fig. 5 506, fig. 6 618).

Conclusion

50. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

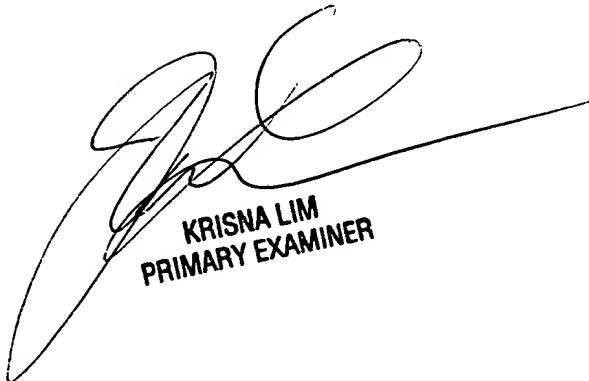
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

51. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS
5/10/06



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PRIMARY EXAMINER